DOCUMENT RESUME

ED 299 958 IR 013 473

AUTHOR Stoll, Peter F.
TITLE Collaborative Technology Initiatives for Serving Persons with Disabilities in New York State. Occasional Paper #1.
INSTITUTION New York State Education Dept., Albany. Center for Learning Technologies.
PUB DATE Jan 88
NOTE 11p.; Paper presented at the Annual Meeting of the Council for Exceptional Children (2nd, Baltimore, MD, January 15, 1988).
PUB TYPE Reports - Descriptive (141) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Computer Literacy; *Disabilities; *Educational Technology; Elementary Secondary Education; Higher Education; Microcomputers; Private Agencies; *Special Education; Staff Development; State Agencies; *Telecommunications; *Vocational Rehabilitation
IDENTIFIERS New York; *Public Private Relationship

ABSTRACT

This paper describes the programs undertaken by the New York State Center for Learning Technologies in cooperation both with other state agencies and with private agencies to ensure that learning technologies are integrated into educational training programs for the disabled, the handicapped, and other special needs populations. Programs described include technology applications for enhancing vocational rehabilitation programs, technology staff development programs for special education, and video production and information dissemination initiatives. In addition, two cooperative programs are detailed: producer-consumer partnerships between educators and the private sector to enhance the quality of learning technologies, and development of interactive telecommunications systems to provide distance education programs for the disabled. Finally, the work of both the State Council on Computing and Disabilities and the Task Force on Technology and Disabilities is described. (EW)

**********
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
**********

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☒ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy

**NOTE:** This paper was presented at the 40th Annual Conference on Engineering in Medicine and Biology, September 10-13, 1987, Niagara Falls, New York; at the Annual Fall Conference, United Cerebral Palsy Association of New York State, Inc., November 16, 1987, Ellenville, New York; and, at the Second Annual Council for Exceptional Children, Technology and Media Division Conference, the Johns Hopkins University, January 15, 1988, Baltimore, Maryland. The paper has been published in the proceedings of these conferences.

ED299958

# Collaborative Technology Initiatives for Serving Persons with Disabilities in New York State

Dr. Peter F. Stoll, Assistant Director
Center for Learning Technologies
New York State Education Department
Room 9A47, Cultural Education Center
Albany, New York 12230

January, 1988

Occasional Paper #1

IR013473

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Peter F. Stoll

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

**Collaborative Technology Initiatives for Serving Persons with Disabilities in New York State**
**by**
**Peter Frederick Stoll**

Learning technologies and telecommunications systems are a significant potential capacity for enhancing the lifelong educational and employment opportunities of persons with disabilities. In May, 1985, the New York State Board of Regents approved a series of fifteen "action recommendations" for assuring that there is effective planning and implementation of the learning technologies within the educational and cultural programs and services of the State. The recommendations - ranging from the need to develop model technology staff development programs to the importance of forming collaborative relationships with other agencies' telecommunications initiatives for the comprehensive planning of distance learning networks - have guided New York State Education Department initiatives to apply learning technologies for addressing the needs of the disabled.

The Center for Learning Technologies, which is a central administration unit of the Department charged with the responsibility of implementing the technologies, has worked cooperatively with the State Education Department's Office of Vocational Rehabilitation (OVR) and the Office of Education of Children with Handicapping Conditions to incorporate Regents action recommendations for the technologies within the respective programs and services of their offices. Cooperative strategies have also been initiated with other State agencies, organizations, and the private sector, such as the New York State Council on Computing and Disabilities, to ensure that the learning technologies are integrated within educational and training programs for the disabled, the handicapped, and other special needs populations. A brief review of some of these cooperative strategies will illustrate the breadth of applications of the technologies for the disabled.

## Technology Applications for Enhancing Vocational Rehabilitation Programs

The Office of Vocational Rehabilitation (OVR) has emphasized the potential benefits of learning technologies within its Comprehensive Plan for Vocational Rehabilitation. Technology applications have been implemented within each of the 15 statewide OVR District Offices to ensure that learning technologies are focused on constituencies in need. Illustrations of applications to increase access to vital information for disabled clients include:

- The use of the Microcomputer Evaluation and Screening Assessment (MESA) to provide an assessment of a client's skills, aptitudes, and interests. MESA results are matched

with over 12,000 jobs listed in the Federal Department of Labor Dictionary of Occupational Titles to provide clients with a print-out of results, which, in turn, enables clients to determine what occupations best match their skills profile.

- The use of video production to record practice job interviews for clients to sharpen their interviewing skills.

- The acquisition of computer software programs that can be used to facilitate cognitive retraining for brain-injured persons and investigation of the application of the software programs to learning disabled persons.

- Development of a summer job training program in the Utica area that teaches word processing skills and in the process stimulates computer literacy and develops the social skills of young adults with disabilities. The program has been carried over into the school year because of its success.

- Use of typing tutor packages to help those clients interested in clerical jobs develop their typing skills and use of smart typewriters to store client resumes.

- Use of specialized programs by OVR counselors, such as programs to provide up-to-date information on adaptive devices and self-tutored signing programs.

•

Technology Staff Development Programs for Special Education

In addition to these initiatives, the Center for Learning Technologies has developed staff development programs to ensure that special educators and vocational rehabilitation professionals acquire competence on the integration of adaptive computer interfaces, rehabilitation technology, and software within their programs and curricula. Examples of technology staff development programs include:

- The development of a computer training curriculum for microcomputer and special education. The course provides an opportunity for participants to observe a variety of devices which enable developmentally disabled people to communicate with the computer and their environment. Communication boards, speech synthesizers, speech recognition systems and light pens are demonstrated.

- The provision of eleven two-day courses for 200 field-based professionals who work with the developmentally disabled. Funding for the project was awarded under the New York State

Developmental Disabilities Planning Council. The courses focused on the use of technology to enhance client learning and communications.

- The development of a curriculum guide, Using Computers in the Education of the Developmentally Disabled: A Hands-On Guide. Topics include motor training games, language arts, and a tool kit disk.

- The selection of the Center for Learning Technologies by Apple Computer, Inc. to serve as an Apple Scholarship Training Program staff development site and the provision of consignments of two Apple microcomputer labs. In association with these consignments, the Center has maintained a liaison role with Apple's Office of Special Education to encourage the development of computer applications for students with special needs and adult rehabilitation computer applications.

- The consignment of software programs for special needs, speech synthesis programs on reading and thinking skills development, key ports, and several adaptive "switches" to permit the handicapped to access computer programs. This specialized hardware and software is being used in the Center's staff development program.

- The provision of planning support and technical assistance for the February 1987, New York State Learning Technologies Fair (VII), which included the following workshops on technologies for persons with disabilities:

  - Hearing Through Technology
  - Microcomputers for Blind Students
  - Technology as a Tool to Independent Living
  - Rehabilitation Through Technology for Brain Injured Persons
  - Technologies of the Future for Persons with Disabilities
  - A Computer-Based Environment for the Special Needs Learner
  - Adaptive Services for the Blind
  - Technology of Training, Retraining and Employment of Persons with Disabilities

- The current planning of a statewide special education conference for educators and rehabilitation specialists who have the responsibility of providing for the education of children and others who suffer from some form of disability. The Center is planning to invite representatives from several state agencies who are charged with this responsibility to form an advisory group which would begin preliminary discussions, concerning the format for such a conference

including date, scope, and issues. Following the conference it is intended to publish the proceedings and a resource guide which would be available to special education professionals throughout New York State.

- In cooperation with the Office of Program Development, the development of a system called the Automated Placement System. This system contains three databases:

  AGENCY, which contains information on the types of services provided to the handicapped by schools, other state agencies and out-of-state providers.

  STUDENT, which contains information on the needs of handicapped students in New York State.

  RECOMM, which contains the results of a program which takes the needs of students from STUDENT and matches them against the services found in AGENCY.

  Additionally, the system contains programs to input to both AGENCY and STUDENT, to update both AGENCY and STUDENT and to provide routine housekeeping operations.

## Video Production and Information Dissemination Initiatives

The Center for Learning Technologies has produced video programs and teleconferences to ensure that there are effective statewide mechanisms for disseminating information about programs and services to special educators and vocational rehabilitation professionals. The productions include:

- "A Path to Independence," in cooperation with OVR, which clarifies the role of that office in assisting disabled clients to prepare for, enter, and maintain employment.

- "The Handicapped: School to Work" and "Educating the Handicapped," two teleconferences which illustrate statewide initiatives for training the handicapped for employment.

- Two video programs on the preparation of resumes, in cooperation with OVR, which explain the basic formats in resume writing and present a number of problem situations confronting persons with disabilities in the preparation of a resume. A third program, under development, will describe the services available from OVR.

- "Students with Handicapping Conditions," a teleconference, to enhance public and educator awareness of the capabilities of those with handicapping conditions.

- "Employing the Disabled," a teleconference which illustrates how OVR works cooperatively with business and industry to enhance employment opportunities for disabled persons. The program won a Bronze Award from the Association of Visual Communicators.

## Collaborative Initiatives

The Center for Learning Technologies is currently involved in two innovative, collaborative strategies for enhancing the applications of the technologies for the disabled: producer-consumer partnerships and distance Learning applications for the disabled.

## Partnerships

The main objective of forging "partnerships" between educators and the private sector is to enhance the qualities of the learning technologies. The value of this activity has been emphasized in the recommendations of the Hunt Commission, the Governor's Task Force Report, the Education Commission of the States, the Council of Chief State School Officers, and other national organizations. A partnership program provides educational leadership with a unique opportunity to encourage the producer to design products based on solid educational theory.

The Department responded to this challenge by forming partnerships with more than 100 corporations to enhance the appropriateness of their products for consumers and to improve the market by aggregating resources across educational and cultural sectors for producers. New York's partnership program has resulted in grants valued at several million.

The effective partnership model established by the Center for Learning Technologies can potentially serve as a mechanism for encouraging hardware and software producers to design adaptive technologies that effectively address the educational and training needs of persons with disabilities. The salient components of such a partnership program include the following:

- Commitment to consign adaptive technology products to vocational rehabilitation facilities, independent living centers, and special education programs for evaluation and demonstration. It is vital that vocational rehabilitation professionals and special educators keep abreast of the newest developments in adaptive technologies. Producers should be encouraged to consign products to institutions and schools that serve the disabled and the handicapped for evaluation and demonstration.

- Provision of appropriate staff development opportunities to ensure that the adaptive technologies are effectively integrated. It is important to provide effective staff development programs to ensure that new adaptive technologies are appropriately integrated within programs and services. Producers should be encouraged to provide substantive resources to train personnel at selected institutions serving the disabled and the handicapped on the integration of the adaptive technologies within their programs. These professionals would in turn be capable of replicating the staff development program statewide and, thus, ensuring that all professionals would be able to integrate the adaptive technology products within their programs.

- Openness to involvement of vocational rehabilitation professionals and special educators in the development of future adaptive technologies. It is critical to ensure that the advice of vocational rehabilitation professionals and special educators are solicited at the earliest stage of product development. Mechanisms should be developed for ensuring that professionals are involved in the development of new adaptive technology systems.

- Willingness to implement an Educator Discount Program. State educational agencies should work closely with the producers of adaptive technologies to gain their support for establishing discount programs. Price discounts would expand access to the adaptive technologies for economically-disadvantaged persons who would not be able to purchase the technologies because of high cost and limited resources.

As an initial foundation for exploring potential partnerships with the private sector, a session on Rehabilitation Engineering was conducted at the Learning Technologies Fair VIII on February 23, 1988. The purpose of the session was to provide an overview of the concept of rehabilitation engineering and a briefing and demonstration of specific devices and strategies used for persons with disabilities. The first half of the session was a panel discussion of rehabilitation engineering conducted by three New York State rehabilitation engineers. The second half included presentations by representatives of industries that produce assistive computer devices. The corporations represented

included Apple Computer, Inc. Office of Special Education Programs, AT&T Special Needs Center, IBM Industry/Special Education, and KURZWEIL AI.

As a follow-up to the session, staff of the Office of Vocational Rehabilitation and the Center for Learning Technologies, are holding discussions with these and other industry representatives on the potential of conducting regional briefing sessions throughout the State; corporate-sponsored demonstration programs and discount programs; and, strategies that corporations might pursue for including the expertise of rehabilitation engineers in the initial stages of designing future adaptive technologies.

## Telecommunications

Interactive telecommunications systems that provide low-cost, two-way voice, video and data communications over a variety of transmission media provide a major capacity for the delivery of education, employment opportunities, and programs and services. Since 1984, 64 distance learning projects have been initiated throughout the State that use telecommunications technologies, such as satellite systems, fiber optic network, microwave transmission, cable and broadcast television and radio.

Current and emergent telecommunications system could be used to enhance the access of persons with disabilities to vital education, training, and information programs and services. For example, training could be provided to the homebound through distance learning systems. Telecommunications networks could also enhance communications, personal independence and the integration of the disabled within their community.

In light of these potential benefits, the Resource Center for Independent Living in central New York is studying the feasibility of using telecommunications to enhance access of the disabled to their programs. Examples of some of the potential uses of telecommunications for enhancing communications and independence of the disabled include:

- The collaborative production and distribution of a tactile art collection by visually impaired and geographically separated elementary school students via a computer teleconferencing network.

- The introduction of an electronic bulletin board system to enable high school students of diverse disabilities to communicate after school.

- The use of teleconferencing to allow a local peer group to enter into dialog on a wide range of disability related topics with similar groups in other areas of the country.

- The employment of a telecommunications network to help a community establish dialog across disability lines. The network would be accessible to blind and visually impaired, deaf and hearing impaired, and physically or developmentally disabled individuals.

- The use of distance learning systems to enable a physically disabled college student to receive a doctoral degree from a major university despite the inability to leave the life support system of the home.

A recent telecommunications project that would provide a major capacity for delivering education and training opportunities to persons with disabilities is the planned implementation of a satellite transmission and reception capacity at the State University of New York's New York Network (NYN). Governor Cuomo provided funds in his 1987-88 budget for the installation of a satellite uplink at SUNY's NYN headquarters in Albany, New York. Staff of the Center and NYN have been working cooperatively with local educational agencies, the library sector, and postsecondary institutions on the development of programs for delivery over this satellite system. Initial plans include the installation of the uplink by early spring 1988, the installation of receive capacities (dishes) at the 64 postsecondary SUNY institutions by fall 1988 and the pilot testing of programs during the summer semester. If it is appropriate, the planned pilot might include the conducting of closed circuit teleconferences for vocational rehabilitation professionals and special educators and the delivery of enhanced learning opportunities to the homebound.

## Policy Initiatives

During the past year, the Center for Learning Technologies, OVR and the Office of Education of Children with Handicapping Conditions have established linkages with the New York State Council on Computing and Disabilities. The creation of this Council was an initiative supported by Governor Cuomo during his January 1986 State of the State message. Subsequent legislative appropriations were provided to implement the Council.

Council membership is a broad confederation of state agencies, colleges and universities, advocacy groups and related business and industry representatives with the membership dedicated to facilitating the distribution, use and improvement of electronic and other devices that will assist people with disabilities in New York to lead more

independent and productive lives. The Council is administered by the Rockefeller Institute of Government in Albany, New York. By combining the efforts and expertise of such a broad constituency, the Council plans to meld these existing capacities in the State into a stronger unified program to meet the needs of these citizens.

The Center for Learning Technologies has also participated in the Task Force on Technology and Disabilities which was appointed by Governor Cuomo in February, 1987, in recognition of the great promise held by special technology for improving people's lives, and with an understanding that action by the State might be required to ensure that this technology is well applied and available to New Yorkers with disabilities.

The Task Force developed a series of nineteen wide-ranging recommendations. Examples of recommendations to strengthen communications, industry relationships, and accessibility to adaptive technologies include:

- The development of "a fully integrated and interactive central information system to provide for retrieval, dissemination and exchange of information in the areas of disability and disability/technology";

- The undertaking of "a special effort to market the State's economic development programs to the disability technology industry";

- The creation of "a low-interest fund to cover the purchase costs of adaptive technology and workplace accommodation"; and

- The creation of "a number of Rehabilitative Technology Centers which would conduct and oversee `needs driven' research on rehabilitation technology, provide education and outreach to consumers and researchers, and transfer developed technologies through commercialization by the private sector."

The Center for Learning Technologies will continue to support these and other initiatives focused at strengthening the policies and aid mechanisms for implementing the technologies for persons who are disabled and handicapped.